ANALYTICA CHIMICA ACTA

International journal devoted to all branches of analytical chemistry

(Abstracted, Indexed in: Anal. Abstr.; Biol. Abstr.; Chem. Abstr.; Curr. Contents Phys. Chem. Earth Sci.; Life Sci.; Index Med.; Mass Spectrom. Bull.; Sci. Citation Index; Excerpta Med.)

VOL. 207 CONTENTS APRIL 15, 1988

Review

Surface preparation of glassy carbon electrodes
G.N. Kamau (Nairobi, Kenya) 1

Electrometric Methods

Computerized flow potentiometric stripping analysis with Nafion-modified carbon fibre electrodes
H. Huiliang, D. Jagner and L. Renman (Lund, Sweden) 17

Flow potentiometric and constant-current stripping analysis for silver(I) with carbon- and platinum-fibre electrodes
H. Huiliang, D. Jagner and L. Renman (Lund, Sweden) 27

Flow potentiometric and constant-current stripping analysis for arsenic(V) without prior chemical reduction to arsenic(III). Application to the determination of total arsenic in seawater and urine
H. Huiliang, D. Jagner and L. Renman (Lund, Sweden) 37

Initial applications of phospholipid-coated mercury electrodes to the determination of polynuclear aromatic hydrocarbons and other organic micropollutants in aqueous systems
A. Nelson, N. Auffret and J. Readman (Plymouth, Gt. Britain) 47

Selective flow-injection determination of residual chlorine at low levels by amperometric detection with two polarized platinum electrodes
W. Matuszewski and M. Trojanowicz (Warsaw, Poland) 59

Studies on the adsorption of nitrogen dioxide onto manganese dioxide-coated quartz piezoelectric crystals
T.E. Edmonds (Loughborough, Gt. Britain), M.J. Hepher and T.S. West (Aberdeen, Gt. Britain) 67

Alcohol-FET sensor based on a complex cell membrane enzyme system
E. Tamiya, I. Karube (Yokohama, Japan), Y. Kitagawa, K.Nakashima (Tokyo, Japan) and M. Ameyama (Yamaguchi, Japan) 77

Polarographic studies on the complexation of cobalt(II), nickel(II) and copper(II) with D-glucosamine and D-galactosamine
J. Urbanska, H. Kozlowski (Wroclaw, Poland), A. Delannoy and J. Hennion (Villeneuve d'Ascq, France) 85

Accumulation and voltammetric measurement of silver at zeolite-containing carbon-paste electrodes
J. Wang and T. Martinez (Las Cruces, NM, U.S.A.) 95

Determination of cobalt in plant digests by adsorption stripping voltammetry
M.J.M. Gilbert, H.K.J. Powell (Christchurch, New Zealand) and J.J. Fardy (Lucas Heights, N.S.W., Australia) 103

(Continued overleaf)

(*Contents continued*)

Computer Methods and Applications

Criterion for quantifying the reliability of analytical results in method development and evaluation
R. Wolters and G. Kateman (Nijmegen, The Netherlands) 111

Evaluation of experimental designs for multicomponent determinations by spectrophotometry
L.L. Juhl and J.H. Kalivas (Pocatello, ID, U.S.A.) 125

General Analytical Chemistry

Synthesis, characterization, and analytical applications of 1,3-dimethyl-4-acetyl-2-pyrazolin-5-one
J.N. King and J.S. Fritz (Ames, IA, U.S.A.) 137

Determination of rare-earth elements by high-performance liquid chromatography/inductively-coupled plasma/atomic emission spectrometry
J.A. Tielrooy, P.H.M. Vleeschhouwer, J.C. Kraak and F.J.M.J. Maessen (Amsterdam, The Netherlands) 149

Direct radioimmunoassay of testosterone in human saliva
M. Migliardi, G. Cenderelli and G. Giraudi (Turin, Italy) 161

Liquid–liquid extraction of noble metals by formazans. Analytical applications of silver extraction by *ortho*-substituted formazans
M. Grote, R. Weskamp, U. Hüppe and A. Kettrup (Paderborn, F.R.G.) 171

Determination of the anticancer drug 5-fluorouracil added to blood serum by liquid chromatography with anodic amperometric detection
T.R.I. Cataldi, A. Guerrieri, F. Palmisano and P.G. Zambonin (Bari, Italy) 183

Fluorophor-enhanced cathodic electroluminescence at an oxide-covered aluminum electrode
K. Haapakka, J. Kankare and O. Puhakka (Turku, Finland) 195

Reference value standards for pH measurements in 10, 30, 50, and 70% (w/w) 2-propanol/water solvent mixtures at temperatures from 288.15 to 318.15 K
S. Rondinini, P. Longhi, P.R. Mussini, A. Nese, M. Pozzi and G. Tiella (Milan, Italy) 211

Extensive flow-injection dilution for in-line sample pretreatment. Comparison between single-stage and dual-stage modules
M.B. Garn, M. Gisin, H. Gross, P. King, W. Schmidt and C. Thommen (Basle, Switzerland) 225

Spectrometric Methods

Kinetic study of the 1,3,5-triphenyl-Δ^2-pyrazoline/technetium (VII) system. Determination of technetium
F. Grases, J.G. March, F.Mata and A. Peñafiel (Palma de Mallorca, Spain) 233

Selective determination of guanine and its nucleosides and nucleotides by reaction with phenylglyoxal as a fluorogenic reagent
M. Kai, Y. Ohkura, S. Yonekura and M. Iwasaki (Fukuoka, Japan) 243

Investigation of ternary cyclodextrin complexes by fluorescence spectrometry
G. Patonay, K. Fowler, G. Nelson and I.M. Warner (Atlanta, GA, U.S.A.) 251

Microdetermination of molybdenum in organometallic compounds by molecular emission and atomic absorption spectrometry
J. Anwar and I.L. Marr (Aberdeen, Great Britain) 259

Sequential multi-element analysis of sediments and soils by inductively-coupled plasma/atomic emission spectrometry with a computer-controlled rapid-scanning echelle monochromator
Y. Kanda and M. Taira (Ibaraki, Japan) 269

Simultaneous determination of thallium, silver and gold in urine by flame and graphite-furnace atomic absorption spectrometry after extraction of the iodide complexes as ion-pairs with tri-n-octylamine
J. Flanjak and A.E. Hodda (Lidcombe, N.S.W., Australia) 283

Determination of trace elements in sea water by graphite-furnace atomic absorption spectrometry after preconcentration by tetrahydroborate reductive precipitation
S. Nakashima, R.E. Sturgeon, S.N. Willie and S.S. Berman (Ottawa, Ont., Canada) 291

Short Communications

Determination of sulfur anions by high-performance liquid chromatography
P. Kokkonen and H. Hyvärinen (Oulu, Finland) 301

Polarographic and liquid chromatographic methods for the determination of sulfur residues on grapes and wheat
H.H. van den Broek, C.E. Goewie and J. Struijs (Bilthoven, The Netherlands) 305

Cationic surfactants in electrochemical determination of sulfide minerals
T.C. Franklin and W.K. Adeniyi (Waco, TX, U.S.A.) 311

Flow-injection system for simultaneous assay of free and total cholesterol in blood serum by use of immobilized enzymes
T. Yao and T. Wasa (Sakai, Japan) 319

Simple antilog converter for conventional and flow-injection measurements with ion-selective electrodes
M. Trojanowicz, T. Krawczyński Vel Krawczyk and W. Augustyniak (Warsaw, Poland) 325

Continuous-flow system for the determination of cobalt in sea and river water. In-line preconcentration/separation coupled with catalytic determination
T. Yamane, K. Watanabe (Takeda, Japan) and H.A. Mottola (Stillwater, OK, U.S.A.) 331

Flow-injection spectrophotometric determination of aluminium based on chrome azurol S and cetylpyridinium chloride
B. Bouzid and A.M.G. Macdonald (Birmingham, Great Britain) 337

Spectrophotometric investigations on immobilized acid–base indicators
M. Bacci, F. Baldini and A.M. Scheggi (Firenze, Italy) 343

Direct determination of normal physiological concentrations of major, minor and trace elements in undiluted microlitre volumes of human body fluids by discrete nebulization and atomic emission spectrometry with a nitrous oxide/acetylene flame
H. Matusiewicz (Poznań, Poland) 349

Molecular emission cavity analysis. Part 28. Monitoring of alcohol dehydrogenase-catalyzed reactions
I.Z. Al-Zamil (Riyadh, Saudi Arabia) and A. Townshend (Hull, Great Britain) 355

The titrimetric determination of beryllium(II) with 1,2-phenylenediamine-*N,N,N′,N′*-tetraacetic acid
N. Nakasuka, K. Takahashi and M. Tanaka (Nagoya, Japan) 361

Liquid–liquid extraction separation of zinc and cadmium with 1-phenyl-3-methyl-4-acyl-5-pyrazolones and tri-n-octylphosphine oxide
K. Sato, Y. Akama and T. Nakai (Tokyo, Japan) 367

Extraction-spectrophotometric determination of traces of palladium by reaction between zinc(II) dibenzyldithiocarbamate and palladium(II)/2-(5-bromo-2-pyridylazo)-5-diethylaminophenol
V. Michaylova, B. Evtimova and D. Nonova (Sofia, Bulgaria) 373

Book Reviews 379

Software Review 383

Author Index 385